

# INTERNATIONAL SEARCH REPORT

PCT/GB2004/003153

<b>A. CLASSIFICATION OF SUBJECT MATTER</b> IPC 7 C12Q1/68 G01N33/30 A61K39/395 A61K31/7088				
According to International Patent Classification (IPC) or to both national classification and IPC				
<b>B. FIELDS SEARCHED</b> Minimum documentation searched (classification system followed by classification symbols) IPC 7 C12Q G01N A61K				
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched				
Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, BIOSIS, EMBASE, WPI Data, PAJ, EMBL				
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>				
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.		
X	WO 01/77389 A (INCYTE GENOMICS INC ; SEILHAMER JEFFREY J (US); MIKITA THOMAS (US); TA) 18 October 2001 (2001-10-18) page 2, line 18- - page 3, line 11 page 10, line 30 - page 20, line 22 claims 1-19 -& DATABASE GENESEQ EBI; 14 February 2002 (2002-02-14), SHIFFMAN ET AL.: "Human DNA sequence #16 expressed during foam cell differentiation" XP002302276 Database accession no. AAS94761 abstract  -----  -/--	1-12, 19, 20		
<input checked="" type="checkbox"/> Further documents are listed in the continuation of box C.				
<input checked="" type="checkbox"/> Patent family members are listed in annex.				
<b>* Special categories of cited documents :</b> <table border="0"> <tr> <td>           *A* document defining the general state of the art which is not considered to be of particular relevance            *E* earlier document but published on or after the international filing date            *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)            *O* document referring to an oral disclosure, use, exhibition or other means            *P* document published prior to the international filing date but later than the priority date claimed         </td> <td>           *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention            *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone            *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.            *&amp;* document member of the same patent family         </td> </tr> </table>			*A* document defining the general state of the art which is not considered to be of particular relevance *E* earlier document but published on or after the international filing date *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) *O* document referring to an oral disclosure, use, exhibition or other means *P* document published prior to the international filing date but later than the priority date claimed	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *&* document member of the same patent family
*A* document defining the general state of the art which is not considered to be of particular relevance *E* earlier document but published on or after the international filing date *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) *O* document referring to an oral disclosure, use, exhibition or other means *P* document published prior to the international filing date but later than the priority date claimed	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *&* document member of the same patent family			
Date of the actual completion of the international search  12 November 2004		Date of mailing of the international search report  06/12/2004		
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016		Authorized officer  Hagenmaier, S		

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 02/46465 A (KINGSMAN SUSAN MARY ; WARD NEIL RAYMOND (GB); KRIGE DAVID (GB); WHITE) 13 June 2002 (2002-06-13) abstract page 21, line 12 claims 1-77 -& DATABASE GENESEQ EBI; 13 June 2002 (2002-06-13), WHITE ET AL.: "Hypoxia-regulated protein coding sequence #79" XP002302277 Database accession no. ABV78059 abstract	1-12, 19, 20
X	----- EP 1 225 224 A (NOJIMA HIROSHI ; KYOWA HAKKO KOGYO KK (JP)) 24 July 2002 (2002-07-24) abstract claims 20, 23, 25, 26, 28, 31, 32, 60, 61, 64, 65, 70, 72, 76 page 34, line 53 - line 57 -& DATABASE GENESEQ EBI; 15 June 2001 (2001-06-15), "Human shear stress-response coding sequence SEQ ID NO: 15" XP002302278 Database accession no. AAH02881 abstract	1-5, 7-12, 19, 20
X	----- SHEN M ET AL: "Induction of basic helix-loop-helix protein DEC1 (BHLHB2)/Stra13/Sharp2 in response to the cyclic adenosine monophosphate pathway." EUROPEAN JOURNAL OF CELL BIOLOGY. MAY 2001, vol. 80, no. 5, May 2001 (2001-05), pages 329-334, XP008037461 ISSN: 0171-9335 the whole document	1, 2
A	----- RICE TREVA ET AL: "Genomewide linkage scan of resting blood pressure: HERITAGE Family Study. Health, Risk Factors, Exercise Training, and Genetics." HYPERTENSION. JUN 2002, vol. 39, no. 6, June 2002 (2002-06), pages 1037-1043, XP002302275 ISSN: 1524-4563 the whole document	

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## Box No. I Nucleotide and/or amino acid sequence(s) (Continuation of item 1.b of the first sheet)

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, the international search was carried out on the basis of:
  - a. type of material
    - ☒ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material
    - ☒ in written format
    - ☒ in computer readable form
  - c. time of filing/furnishing
    - ☒ contained in the international application as filed
    - ☒ filed together with the international application in computer readable form
    - ☐ furnished subsequently to this Authority for the purpose of search
2. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
3. Additional comments:

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## Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: 13-18 (all completely)  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:  
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.2

Claims Nos.: 13-18 (all completely)

Present claims 13 and 14 relate to the method of claim 12 further comprising steps of using a "test target protein" for identifying a "test compound" which is useful in the treatment of CAD. Claim 15 relates to the methods of claims 13 and 14 further comprising the step of formulating a test compound into a pharmaceutical composition. The methods of claims 13,14 and 15 are considered to comprise different and irreconcilable types of processes, so that the subject matter for which protection is sought is not clearly defined (Art. 6 PCT). Moreover, due to the fact that neither the "test target protein" of claims 13 and 14 nor the "test compound" of claim 15 are further defined and due to the fact that no specific examples of such "test target protein" or "test compound" are disclosed in the patent specification, a meaningful search for the different processes of claims 13-15 was not possible.

Although claim 16 refers to a method of treatment of the human/animal body a search could have been carried out and based on the alleged effects of the compound. However due to reasons given below, such search was not possible.

Present claims 16 and 17 relate to a compound wherein the compound is only defined by reference to a desirable characteristic or property, namely a compound being identifiable by a method according to claims 13 and 14. However, this functional feature defining the result to be achieved in connection with an indefinite structural feature, as is the case here, cannot assist in rendering the claim clear, since it still leaves open what exactly the subject-matter is for which patent protection is sought. This lack of clarity in the present case is such as to render a meaningful search over the whole of the claimed scope impossible. Due to the fact that the patent specification does not disclose any clear examples of such compounds, the lack of clarity (Art. 6 PCT) is such that no search could be carried out for any subject matter covered by claims 16 and 17.

Present claim 18 refers to a method which is only defined by a result to be achieved, namely "identifying other components of the CAD biochemical pathway of which BHLHB2 is a component". The patent specification does not disclose any technical teaching of how to practice such method. Furthermore the term "the CAD biochemical pathway of which BHLHB2 is a component" is considered completely unclear. The method of claim 18 is therefore considered neither clear nor supported (Art. 6 PCT). The lack of clarity and support is such that a meaningful search of the subject matter claimed was not possible.

The applicant's attention is drawn to the fact that claims relating to

**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0177389	A	18-10-2001	AU 5135101 A	23-10-2001
			CA 2403946 A1	18-10-2001
			EP 1358347 A2	05-11-2003
			WO 0177389 A2	18-10-2001
			US 2003165924 A1	04-09-2003
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WO 0246465	A	13-06-2002	AU 2092002 A	18-06-2002
			WO 0246465 A2	13-06-2002
			US 2003203372 A1	30-10-2003
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EP 1225224	A	24-07-2002	AU 7452300 A	10-05-2001
			EP 1225224 A1	24-07-2002
			WO 0125427 A1	12-04-2001
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